**MEASURING MICE**

A small group of our Middle School students, under the mentorship of the Liggins Institute\*, are currently researching the effects of disrupted light patterns – known in the scientific world as  circadian rhythm disturbance - through long-term monitoring of a group of mice.

Our own research and that of other scientists will be used in studies to investigate the effects that night shifts have on people and the impact of sleep deprivation.  Some studies have shown that disrupted night-time sleep patterns result in issues such as weight gain and obesity, as well as changes in metabolic hormones.  More commonly, sleep deprivation results in decreased vigilance, general fatigue and decreased mental efficiency – which makes everyday activities such as driving cars or heavy machinery, or cooking and caring for families, difficult and potentially dangerous.

The project being undertaken by our students required Animal Ethics approval to ensure the wellbeing of the mice. On a regular basis, the students are measuring ketone and glucose levels and will at a later date be analysing the faeces for fecal corticosterone levels, as well as tracking the activity levels of the mice on a running wheel and by using a radial arm maze. The monitoring will continue for 50 days and generate data for the Liggins’ Institute that the students will analyse and report back on later in Semester Two.

*\*The Liggins Institute is a Large Scale Research Institute at the University of Auckland. It is a world leading centre for translational research on fetal and child health; the impact of nutrition on health throughout life; epigenetic regulation of growth and development; breast cancer; and evolutionary medicine. Their aim* *is to rapidly translate discoveries in basic science into therapies and strategies that will prevent or help people manage major health problems of the 21st century. They are committed to promoting awareness and understanding of science and provide wide-ranging opportunities for school students and teachers to learn about the latest advances in the life sciences within the context of current, applied biomedical research and links directly to the secondary science curriculum.*